

REMARKS

Claims 1-13 were pending in this application prior to the office action. By this amendment, claims 1, 6, 8, 10, and 11 are amended, and claims 5 and 9 are cancelled. Thus, claims 1-4, 6-8, and 10-13 remain pending. In view of the above amendments and the following remarks, Applicants respectfully request reconsideration and allowance of the application.

The specification stands objected to because the Examiner asserts that the “Cr” on line 13 of page 13 should be “C.” This portion of the specification is corrected herein. No new matter has been added. Thus, this objection has been overcome and should be withdrawn.

Claims 1-5 and 8-13 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, with respect to claim 1, the Examiner asserts that the phrase “Q is boron and/or carbon” encompasses the embodiment wherein Q is only boron with no C, that is, C is optional in the main phase, but that, in lines 6 and 7, C is recited as one of the “essential elements” of the main. The Examiner thus asserts that claim 1 and dependent claims 2 to 5 are inconsistent as to whether or not the main phase must contain C. However, claim 1 as amended herein instead recites “Q is boron and carbon.” Thus, Applicants submit that claim 1 and its dependent claims satisfy all of the requirements of 35 U.S.C. § 112, second paragraph, and request that this rejection be reconsidered and withdrawn.

Similarly, the Examiner asserts that, in claim 8, line 4, C is claimed as optional in the main phase, while in lines 7 and 8, C is claimed as essential in the main phase, and that claim 8 and dependent claims 9 to 13 are inconsistent as to whether or not the main phase must contain C. However, claim 8 as amended herein instead recites “Q is boron and carbon.” Thus, Applicants submit that claim 8 and its dependent claims satisfy all of the requirements of 35 U.S.C. § 112, second paragraph, and request that this rejection be reconsidered and withdrawn.

In addition, claims 1-5 and 8-13 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Ueda et al. (Ueda, Japanese Patent Document No. 04-268051). In particular, the

Examiner asserts that Ueda teaches a method of making a rare earth-Fe-Co-B-C sintered magnet, that Ueda teaches adding Cr to the main phase of a rare earth sintered and C to the boundary layer phase of the sintered rare earth magnet, and thus, teaches a main phase containing Cr as recited in the instant claims and a grain boundary phase containing C as recited in the instant claims. In addition, the Examiner asserts that C is not required in the main phase alloy, and therefore, claims 1 to 5 and 8 to 13 are anticipated by Ueda.

Similarly, claims 6-7 stand rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ueda. In this regard, the Examiner states that Ueda is silent as natural electrode potential of the disclosed composition, but asserts that one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the composition taught by Ueda has a composition that is encompassed by the instant, and that the composition taught by Ueda would be expected to possess all the same properties as recited in the instant claims.

However, Ueda fails to teach, disclose, or suggest, each and every feature of claims 1-4, 6-8, and 10-13 under 35 U.S.C. § 102, and fails to render obvious the invention recited in claims 6-7 under 35 U.S.C. § 103. In particular, Ueda fails to disclose or render obvious a sintered magnet comprising an $R_2T_{14}Q$ type tetragonal compound (where R is at least one rare-earth element, T is at least one transition metal element always including Fe, and Q is boron and carbon), as is recited in amended claims 1 and 8. In addition, according to Ueda, C is not added to the main phase, but is instead added to the boundary layer phase of the sintered magnet. In contrast, independent claims 1, 6, and 8 recite that the $R_2T_{14}Q$ type tetragonal compound includes C, and is used as a main phase. Therefore, Applicants respectfully request that the above rejections of claims 1-4, 6-8, and 10-13 under 35 U.S.C. § 102/103 in view of Ueda be reconsidered and withdrawn.

Claims 1-5 and 8-13 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Takebuchi et al. (Takebuchi, US Patent No. 5,595,608). In particular, the Examiner asserts that Takebuchi teaches a method of making a sintered rare earth-iron-boron magnet having a

composition that overlaps the claimed permanent magnet composition (column 14, lines 36 to 55) wherein a main phase rare earth alloy (column 8, lines 9 to 15) optionally containing Cr and C (column 8, lines 40 to 46) having a composition that overlaps the main phase alloy composition recited in the instant claims and a grain boundary phase having a composition that overlaps the composition of the grain boundary phase recited in the instant claims (column 10, lines 35 to 40) are mixed and sintered (column 20, line 50 to column 21, line 8).

Similarly, claims 6 and 7 stand rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Takebuchi. In this regard, the Examiner states that Takebuchi is silent as natural electrode potential of the disclosed composition, but asserts that one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the composition taught by Takebuchi has a composition that is encompassed by the instant, and that the composition taught by Takebuchi would be expected to possess all the same properties as recited in the instant claims.

However, Takebuchi fails to teach, disclose, or suggest, each and every feature of claims 1-4, 6-8, and 10-13 under 35 U.S.C. § 102, and fails to render obvious the invention recited in claims 6-7 under 35 U.S.C. § 103. In particular, claims 1 and 6, as amended herein, recite, in relevant part, a sintered magnet comprising “0.4 at% to 4.5 at% of C.” Similarly, claim 8, as amended herein, recites, in relevant part, preparing a powder of a main phase alloy, the main phase alloy including “0.5 at% to 5.0 at% of C.” These amounts of carbon are significantly higher than the amounts disclosed by Takebuchi. For example, Takebuchi discloses, on col. 15, lines 22-28, that “the primary phase-forming master alloy may further contain incidental impurities or trace additives such as carbon and oxygen.” The low unintentional impurity / trace additive levels disclosed by Takebuchi are less than the minimum amount recited by the claims, namely, 0.4 at% for claims 1 and 6 and 0.5 at% for claim 8. Therefore, Applicants respectfully request that the above rejections of claims 1-4, 6-8, and 10-13 under 35 U.S.C. § 102/103 in view of Takebuchi be reconsidered and withdrawn.

In view of the foregoing, it is submitted that the present application is in condition for allowance and a notice to that effect is respectfully requested. If, however, the Examiner deems that any issue remains after considering this response, the Examiner is invited to contact the undersigned attorney to expedite the prosecution and engage in a joint effort to work out a mutually satisfactory solution.

Except for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 19-2380. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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